



# UNITED STATES PATENT AND TRADEMARK OFFICE

*lh*

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/772,949	02/05/2004	Marco Scofet	871-011683-US (PAR)	5305
2512	7590	01/06/2006	EXAMINER	
PERMAN & GREEN 425 POST ROAD FAIRFIELD, CT 06824			STAHL, MICHAEL J	
			ART UNIT	PAPER NUMBER
			2874	

DATE MAILED: 01/06/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/772,949	<b>Applicant(s)</b> SCOFET ET AL.	
	<b>Examiner</b> Mike Stahl	<b>Art Unit</b> 2874	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 19 October 2005.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 16 is/are allowed.
- 6) ☒ Claim(s) 1-15 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

***Claim Objections***

Claim 1 is objected to because the phrase “disposed in said ferule” should be changed to “disposed in said ferrule”.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-2, 4, 7, 12-13, and 15 are rejected under 35 U.S.C. 102(b) as being anticipated by Fujihara et al. (US 5065011, cited in information disclosure statement).

Claim 1: Fujihara discloses an optical module (fig. 8) including an upper plate 57 having an aperture 57a, and a lower plate 50, the lower plate having at least one high speed active component 31 disposed thereon at a predetermined height above an upper surface of said lower plate, the module further including a ferrule 37 disposed within the aperture, the ferrule extending through the aperture a predetermined distance, so as to facilitate alignment of a fiber 36 disposed in the ferrule with the active optical component. The added limitation regarding the upper plate and lower plate being aligned using a visual system amounts to a product-by-process limitation (MPEP 2113) and is not given patentable weight because it does not result in a different structure.

Claim 2: The lower plate 50 is ceramic (col. 5 ln. 41).

Art Unit: 2874

Claim 4: The active component **31** is a detector (col. 5 ln. 45).

Claim 7: The module is an optical receiver.

Claim 12: In a variant of the fig. 8 embodiment, the upper and lower plates are hermetically sealed (col. 6 lns. 58-59).

Claim 13: The module further includes an electrical connector disposed on the lower plate.

Claim 15: The electrical connector is a series of electrical lead connectors **55, 56**.

Claims 1, 4-5, 7-11, 13, and 15 are rejected under 35 U.S.C. 102(a) as being anticipated by Nesnidal et al. (US 6364541).

Claim 1: Nesnidal discloses an optical module (figs. 2A-2E) including an upper plate **210** having an aperture, and a lower plate **224**, the lower plate having at least one high speed active component **254** disposed thereon at a predetermined height above an upper surface of said lower plate, the module further including a ferrule **144** disposed within the aperture, the ferrule extending through the aperture a predetermined distance, so as to facilitate alignment of a fiber **150** disposed in the ferrule with the active optical component. The added limitation regarding the upper plate and lower plate being aligned using a visual system amounts to a product-by-process limitation (MPEP 2113) and is not given patentable weight because it does not result in a different structure.

Claim 4: In a related embodiment (fig. 3A), the active component **352** is a detector.

Claim 5: The detector is a PIN detector (col. 8 ln. 16).

Claim 7: The fig. 3A module is an optical receiver (col. 7 lns. 26-27).

Claim 8: The active optical component **254** in fig. 2B is a light source.

Claim 9: The light source is a laser.

Claim 10: The laser is a vertical cavity surface emitting laser (col. 5 lns. 50-55).

Claim 11: The fig. 2 module is an optical transmitter (col. 5 lns. 19-20).

Claim 13: The module further includes an electrical connector disposed on the lower plate.

Claim 15: The electrical connector is a series of electrical lead connectors **236-242**.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Art Unit: 2874

Claims 3 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nesnidal et al. (cited above).

Claim 3: Nesnidal does not refer specifically to flip chip mounting. However, this type of mounting is already well known in the art. It would have been obvious to a skilled person to have employed flip chip mounting in the Nesnidal module since this would advantageously place the contacts of the active optical component closer to the electrical connection pads and / or prevent the contacts from obstructing the light emission or reception path.

Claim 14: Nesnidal does not refer specifically to a flex connector. It would have been obvious to a skilled person to have used a flex connector instead of pins since this would beneficially increase the freedom of positioning of the module and would thereby relax the manufacturing requirements for connecting the module to another device.

Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nesnidal et al. (cited above) in view of Kawase et al. (US 6310707).

Nesnidal discloses a PIN detector but not an avalanche detector. Kawase teaches that an avalanche detector has increased sensitivity and speed compared to a PIN detector (col. 13 lns. 48-53). Since these features are beneficial in the context of optical communications, it would have been obvious to a skilled person to have employed an avalanche detector in place of the PIN detector of Nesnidal as suggested by Kawase.

***Response to Remarks***

Applicant's remarks regarding the previously applied references are acknowledged but are not persuasive. Although those references may not disclose alignment by a visual system as now recited in claim 1, claim 1 is still ultimately a product claim and the patentability of product claims must be based on structural differences. It is not evident that the product defined by claim 1 is structurally different from the modules of the applied references.

***Allowable Subject Matter***

Claim 16 is allowed. The previously applied Fujihara et al. and Nesnidal et al. references fail to teach or suggest visually aligning the upper and lower plates in the manner recited by claim 16 as amended.

***Conclusion***

Applicant's amendment necessitated the new grounds of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

Art Unit: 2874


however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Inquiries about this letter should be directed to Mike Stahl at 571-272-2360. Inquiries of a general or clerical nature (e.g., a request for a missing form or paper, etc.) should be directed to the technical support staff supervisor at 571-272-1626. Official correspondence which is eligible for submission by facsimile and which pertains to this application may be faxed to 571-273-8300. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Questions about the Private PAIR system should be directed to the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

MJS

Mike Stahl  
Patent Examiner  
Art Unit 2874

January 4, 2006



SUNG PAK  
PRIMARY EXAMINER